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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,300	09/17/2003	Jac Kwang Park	282.028	4581
23598	7590	02/22/2006	EXAMINER	
BOYLE FREDRICKSON NEWHOLM STEIN & GRATZ, S.C. 250 E. WISCONSIN AVENUE SUITE 1030 MILWAUKEE, WI 53202			CINTINS, IVARS C	
			ART UNIT	PAPER NUMBER
			1724	

DATE MAILED: 02/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/664,300

Applicant(s)

PARK ET AL.

Examiner

Ivars C. Cintins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-13, 18-23, 26 and 28-35 is/are pending in the application.
- 4a) Of the above claim(s) 4, 18-23, 26 and 28-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2, 3 and 5-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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Applicant's election without traverse of Group I, claims 2-13, in the reply filed on December 5, 2005 is acknowledged; and Applicant's election of iron oxide as the additive species is also acknowledged. Claims 2, 3 and 5-13 are deemed to read on the elected invention and the elected species; and claims 4, 18-23, 26 and 28-35 are withdrawn from further consideration, as being directed to a non-elected invention and/or species.

Applicant's request that Groups I and II should be rejoined cannot be granted because the process of Group II could be used to make another filter material, different from that of Group I. For example, this process could be used to make a non-silica mesoporous molecular sieve (see amended claim 7, line 5; and amended claim 18, line 5). Although the two inventions may be classified in the same class and subclass, the searches for the individual Groups are clearly divergent, and the additional search required for the non-elected invention of Group II would constitute a serious burden upon the examiner.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 2, 3, 6, 7, 12 and 13 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Davydov et al. (U.S. Patent No. 6,585,863). The reference discloses a filter material for treating a liquid or gaseous fluid (col. 1, line 16), which filter material comprises an ordered mesoporous silica molecular sieve impregnated with iron oxide (see col. 7, lines 5-9; col. 8, line 30; col. 13, lines 15 and 20; and col. 14, line 60). With respect to claim 6, Applicant

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should note that the intended use of a material (i.e. to remove arsenic from a fluid) is not a product limitation, and hence cannot be relied upon to patentably distinguish product claims.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davydov et al. Davydov et al. discloses the claimed invention with the exception of the amount of additive employed (claim 5), and its particles size (claims 8 and 9). However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the recited amount of iron oxide in the reference material, in order to ensure that the resulting product has an adequate amount of photocatalytic properties. Also, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ either powder or granular iron oxide in this reference material, in order to ensure that this additive is evenly distributed throughout the mesoporous silica molecular sieve substrate material.

Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davydov et al. in view of Baker et al. (U.S. Patent No. 6,706,194). Davydov et al. discloses the claimed invention with the exception of the recited additional filter material. Baker et al. discloses removing organic contaminants from a fluid with a catalytic activated carbon, and further teaches that this carbon can be in block form (col. 8, lines 63-66). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the system of Davydov et al. with an additional organic contaminant removal filter, such as the one

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disclosed by Baker et al., in order to provide additional organic contaminant removal capability for this primary reference system.

The Kresge et al. publication is cited to show that the molecular sieve material of Davydov et al. (col. 7, lines 5-7; and col. 13, line 15) is known to be an ordered mesoporous silica molecular sieve.

Applicant's arguments filed July 5, 2005 have been noted and carefully considered, but no longer appear to be relevant in view of the new grounds of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to I. Cintins whose telephone number is 571-272-1155. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Duane Smith, can be reached at 571-272-1166.

The centralized facsimile number for the USPTO is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ivars C. Cintins
Primary Examiner
Art Unit 1724

I. Cintins
February 20, 2006